ANSWER KEY

Unit 1: Electricity

Session 1: Electricity Generation Concept

A. Fill in the blanks

1. Electrons
2. repel, attract
3. electricity
4. thermal
5. chemical reactions

B. Match the columns

1. (b)
2. (c)
3. (a)
4. (d)

C. Multiple choice questions

1. (b)
2. (b)
3. (d)
4. (c)
5. (b)

Session 2: Basic Units and Effects of Electric Current

A. Fill in the blanks

1. heating effect
2. Michael Faraday
3. tungsten
4. electromotive forces

B. Match the columns

1. (d)
2. (c)
3. (b)
4. (a)

C. Multiple choice questions

1. (a)
2. (b)
3. (d)
4. (a)
5. (b)

Session 3: Concept of Electrical Power and Energy

A. Fill in the blanks

1. generation, transmission
2. Watts

3. Voltmeter
4. kilowatt hour
5. drop

B. Match the columns

1. (b)
2. (c)
3. (d)
4. (a)

C. Multiple choice questions

1. (a)
2. (b)
3. (b)
4. (b)

Session 4: Importance of Earthing System

A. Fill in the blanks

1. earthing
2. short circuit
3. earthing lead
4. apparatus

B. Match the columns

1. (d)
2. (a)
3. (c)
4. (b)

C. Multiple choice questions

1. (a)
2. (b)
3. (d)
4. (a)
5. (a)

Unit 2: Handling of Tools and Equipment

Session 1: Tools and Equipment

A. Fill in the blanks

1. rachet
2. metal, plastic
3. neon

B. State whether the following statements are True or False

1. True
2. False
3. True
4. False

NOTES

Session 2: Tools and Equipment used for Cable Laying

A. Multiple choice questions

1. (b) 2. (a) 3. (b) 4. (c)
5. (d) 6. (a) 7. (b) 8. (c) 9. (a)

B. State whether the following statements are True or False

1. True
2. True
3. False

Unit 3: Electrical Wiring Components and Accessories

Session 1: Identifying and Selecting the Wiring Material and Components

A. Fill in the blanks

1. conducting, insulating, semiconductor
2. electric circuit
3. capping wiring
4. Circuit breakers

B. State whether the following statements are True or False

1. False
2. False
3. True

C. Multiple choice questions

1. (a)
2. (a)
3. (a)

Session 2: ICTP Switch and Distribution Board

A Fill in the blanks

1. subsidiary circuits
2. negative side
3. Phase
4. fuse

B. Multiple Choice Questions

1. (a)
2. (c)
3. (c)
4. (d)

Session 3: Workplace Health and Safety Measures

A. Fill in the blanks

1. rubber
2. electric hazard
3. Cardio-pulmonary resuscitation
4. Circuit breakers

B. Multiple choice questions

1. (d)
2. (c)
3. (c)
4. (d)

Unit 4: Repair and Maintenance of Power Distribution Lines

Session 1: Prepration of Repair and Maintenance of Power Distribution Line

A. Fill in the blanks

1. better
2. reinforcing
3. 11kV
4. vertical

B. Multiple choice questions

1. (c)
2. (a)
3. (a)
4. (a)

C. Match the columns

1. (c) 2. (d)
3. (b) 4. (a)

Session 2: Specific Terminology in Distribution Line

A. Fill in the blanks

1. Overhead
2. 33 kV
3. 13,800
4. Transmitting

B. Multiple choice questions

1. (d)
2. (d)
3. (d)
4. (b)

Session 3: Construction Activities

A. Fill in the blanks

1. current, changes in current
2. demand, availability
3. Combination pliers
4. grip
5. falt

B. Multiple choice questions

1. (e) 2. (a) 3. (d)

C. Match the column

1. (c) 2. (a) 3. (b) 4. (d)

Notes

GLOSSARY

AC Supply: *AC stands for alternating current. In an AC circuit the current changes direction in a cyclic manner. In India, the AC frequency is 50 Hz.*

Ammeter: *It is a device used to measure the current flowing through a circuit. Ammeter is always connected in series.*

Battery: *It is a combination of two or more cells*

Conductor: *It is the type of metal which allows the electrical current to flow through it.*

Dry cell: *It is generally of 1.5 volt.*

D.P.: *It is erected in mid span of electrical transmission line so that no deflection of single pole and wire take place.*

Earthing: *The proper electrical contact between electrical installation and the earth.*

Earthed: *When an electrical machine, appliance or wiring is connected to the earth through earth electrode, it is known as Earthed.*

Earth Electrode: *A pipe or plate buried in the earth for discharge of electricity is known as Earth Electrode.*

Earthing Lead: *The conducting wire or conductive strip connected between earth electrode and electrical installation and machine is called earthing lead.*

Earthing Resistance: *This is the resistance between earth electrode and the earth in Ohms.*

Galvanometer: *Current indicating device.*

Heating Element: *is a resistance which generates heating.*

Potentiometer: *It is an electric element that has a variable resistance. It is used to change the potential difference across the circuit.*

Resistor: *It resists the flow of a current and thereby produce heat.*

Stay: *It is used to sport the angular poll and end pole. Stay is mainly used to hold the tension of conductor/cable.*

Switch: *It is an electrical current flow controlling device.*

Transformer: *It is an element used to step up or step down the voltage. In an ideal transformer energy is conserved. So if the voltage goes up the current goes down and vice versa.*

Voltmeter: *It is a device used to measure potential difference. Voltmeter is always connected in parallel.*

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3. Figures have been taken from *Physics Textbook*, Class XII, Fig 6.16 page no. 225, NCERT

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Fig.1.37	Domestic Appliance Repairer, Instruction–cum-repairer, 1991, NCERT, New Delhi

Unit 2

Fig. 2.8	https://www.google.com/search?hl=en-IN&authuser=0&biw=1366&bih=576&tbm=isch&sa=1&ei=qM-7LXNy_o9QPDvqHQDw&q=tester+png&oq=-tester+png&gs_l=img.3..0j0i5i30l3j0i8i30.6571.7700..8028...0.0..0.144.548.0j4......0....1..gws-wiz-img.......0i67.kGHlf8C9rjw#imgrc=M-K17D-VGO7GJ-M:

Fig. 2.20	https://www.google.com/search?q=Cable+Drums&tbm=isch&source=iu&ictx=1&fir=hMfVBYNTQPaTZM%253A%252C75pU0pKD5FLMmM%252C_&vet=1&usg=AI4_-kTR9Av3tnKjrNINnWV6VdP3hiyHOA&sa=X&ved=2ahUKEwig4a6Az_7hAhUMu48KHdyuCSEQ9QEwAHoECAgQBA#imgdii=PX43kxl3ngKMmM:&imgrc=hMfVBYNTQPaTZM:&vet=1
Unit 4	
Fig. 4.2	https://thumbs.dreamstime.com/b/concrete-electric-pole-power-supply-industry-22457343.jpg
Fig. 4.3	https://dir.indiamart.com/impcat/psc-pole.html
Fig. 4.4	https://zhenglancable.manufacturer.globalsources.com/si/6008853343047/pdtl/Bare-conductor/1162751651/Bare-Aluminum-Clad-Steel-Reinforced-Conductor.htm
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